

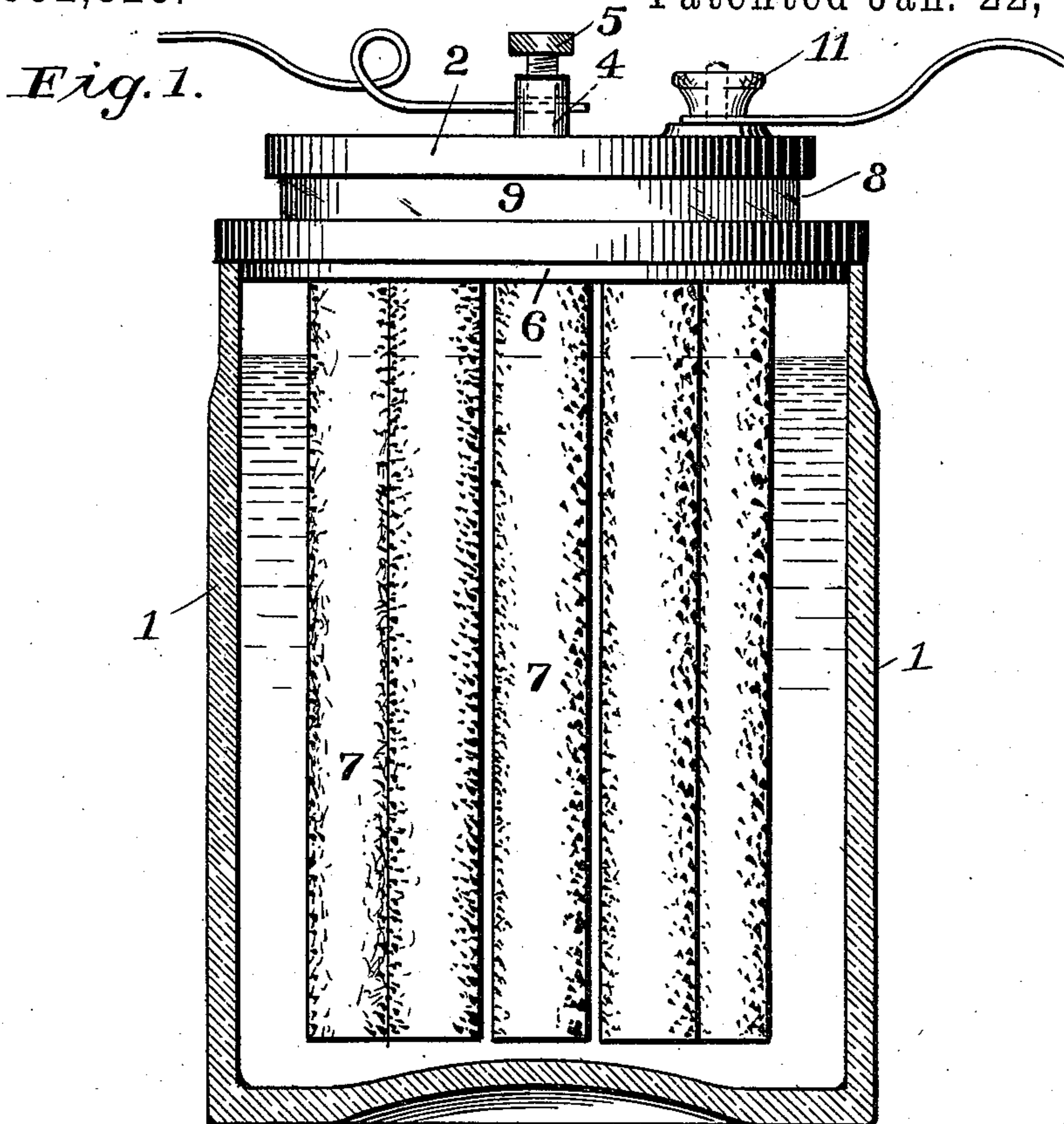
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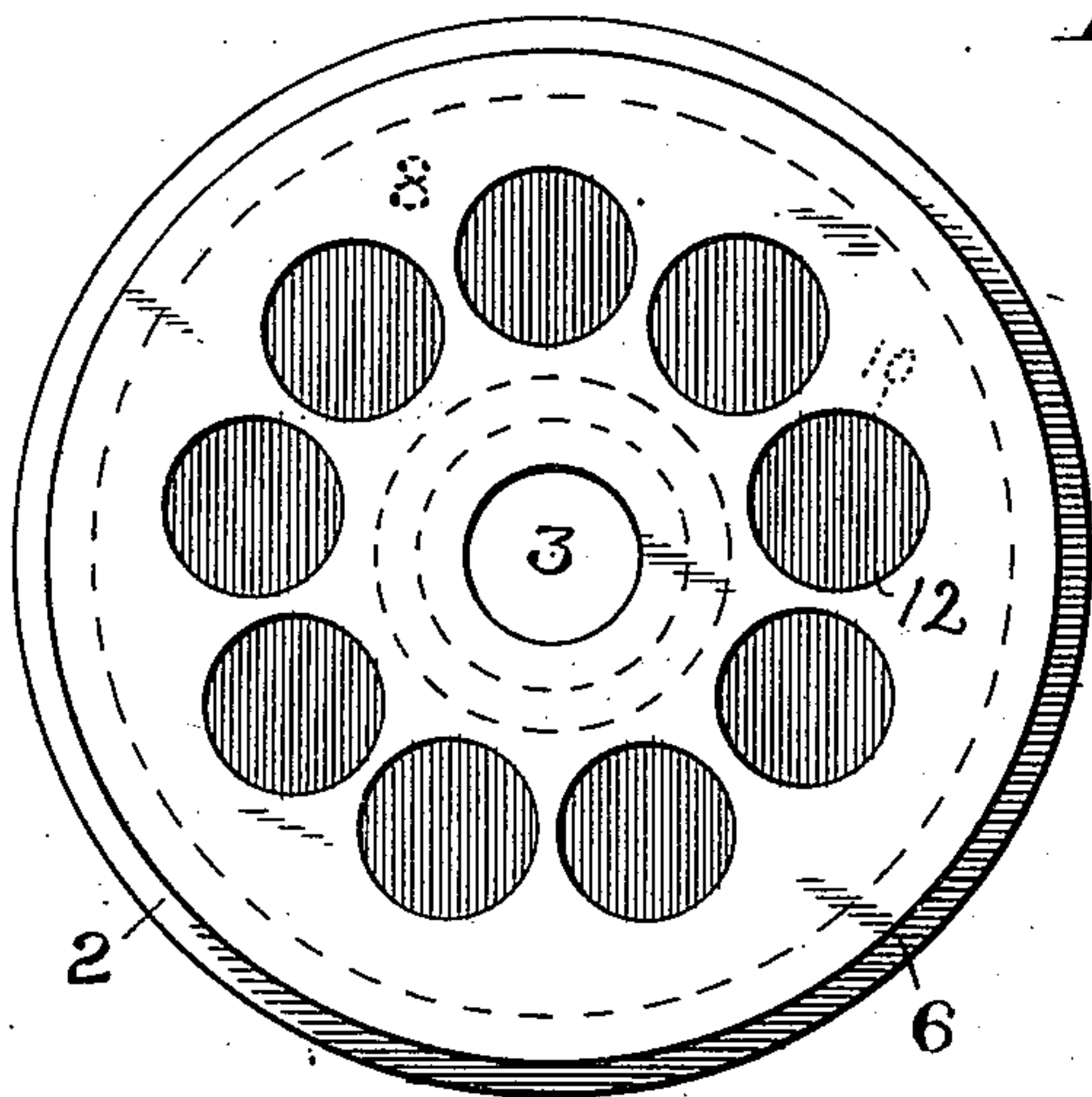
C. B. SCHOENMEHL.  
GALVANIC BATTERY.

No. 532,826.

Patented Jan. 22, 1895.



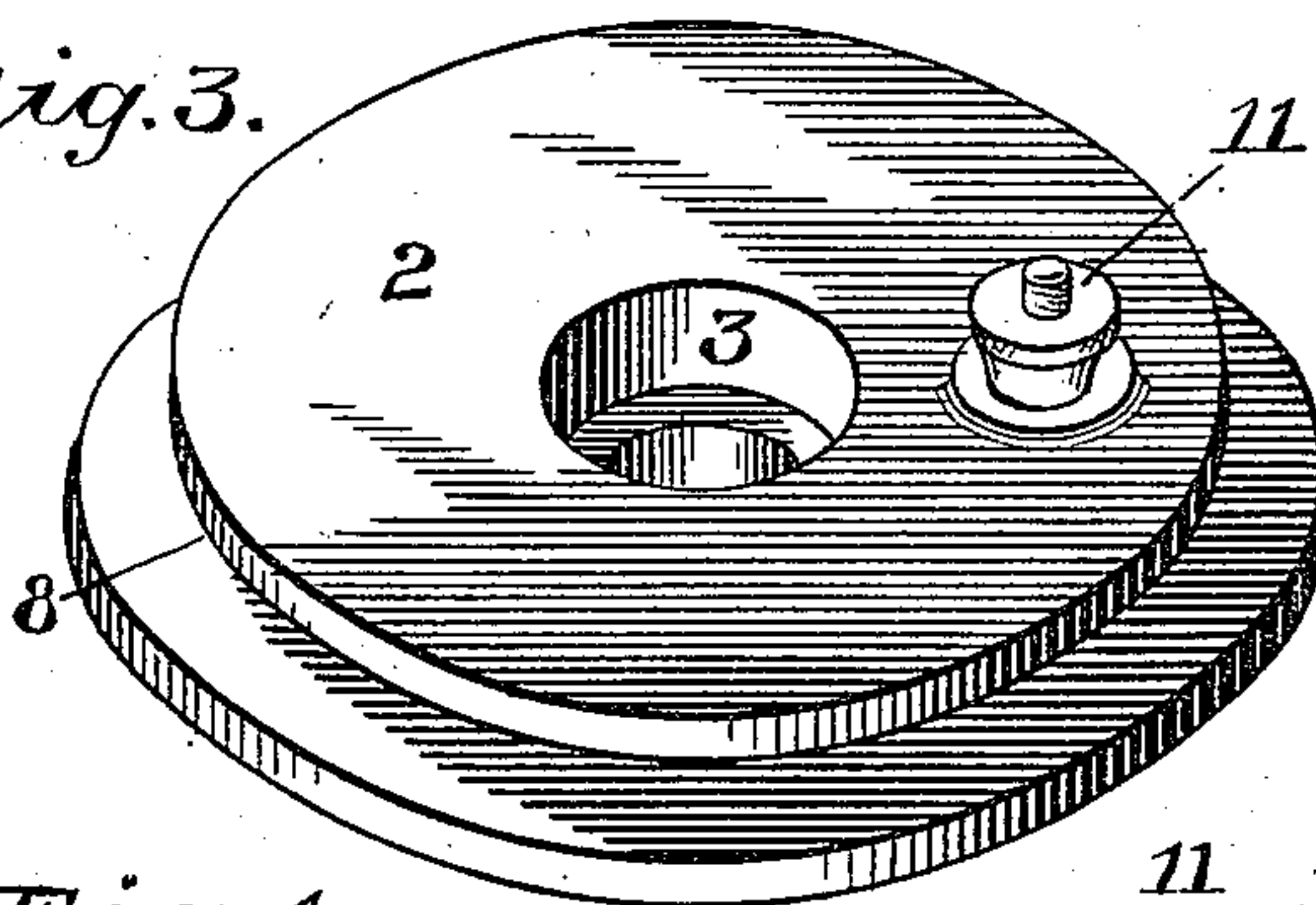
*Fig. 2.*



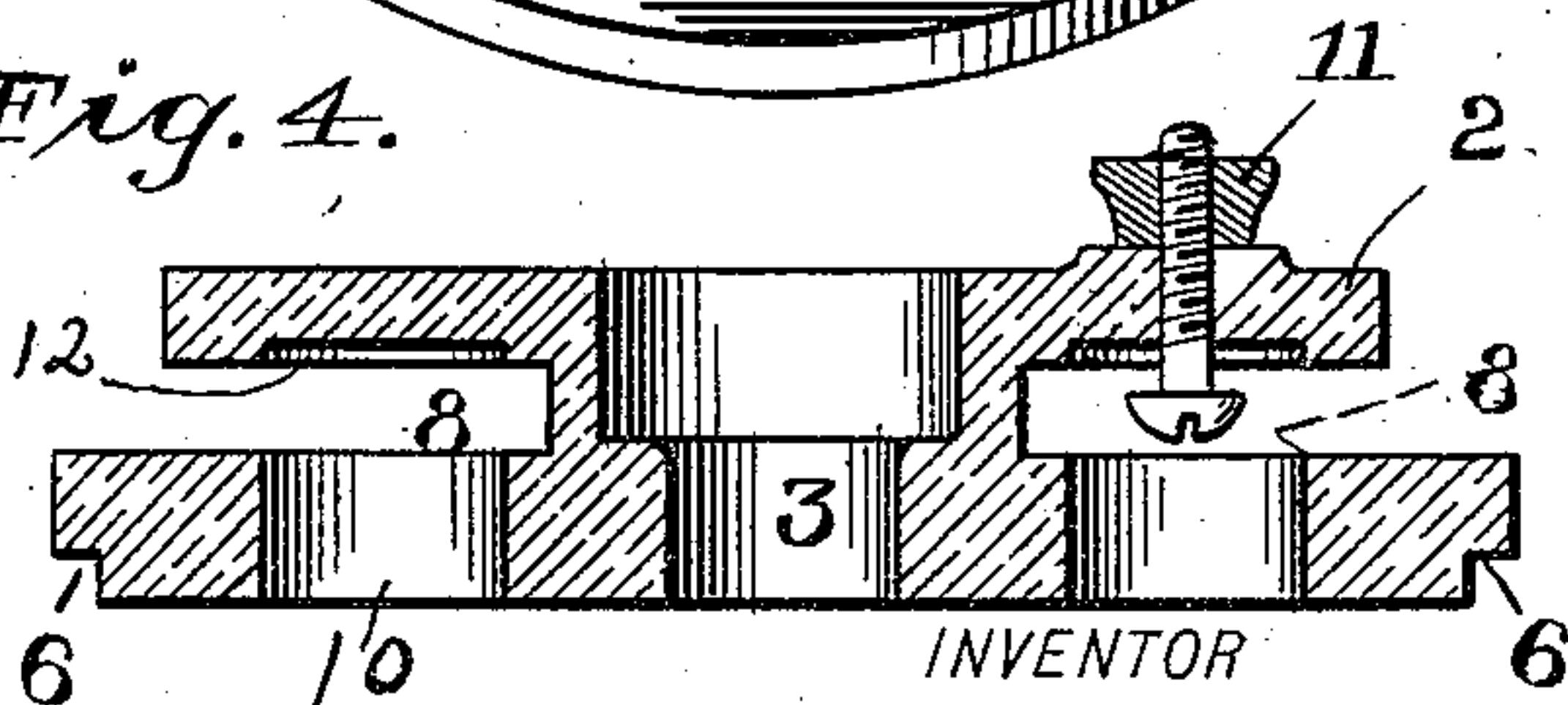
WITNESSES:

*George E. Hill*  
*Edwin F. Hall*

*Fig. 3.*



*Fig. 4.*



INVENTOR

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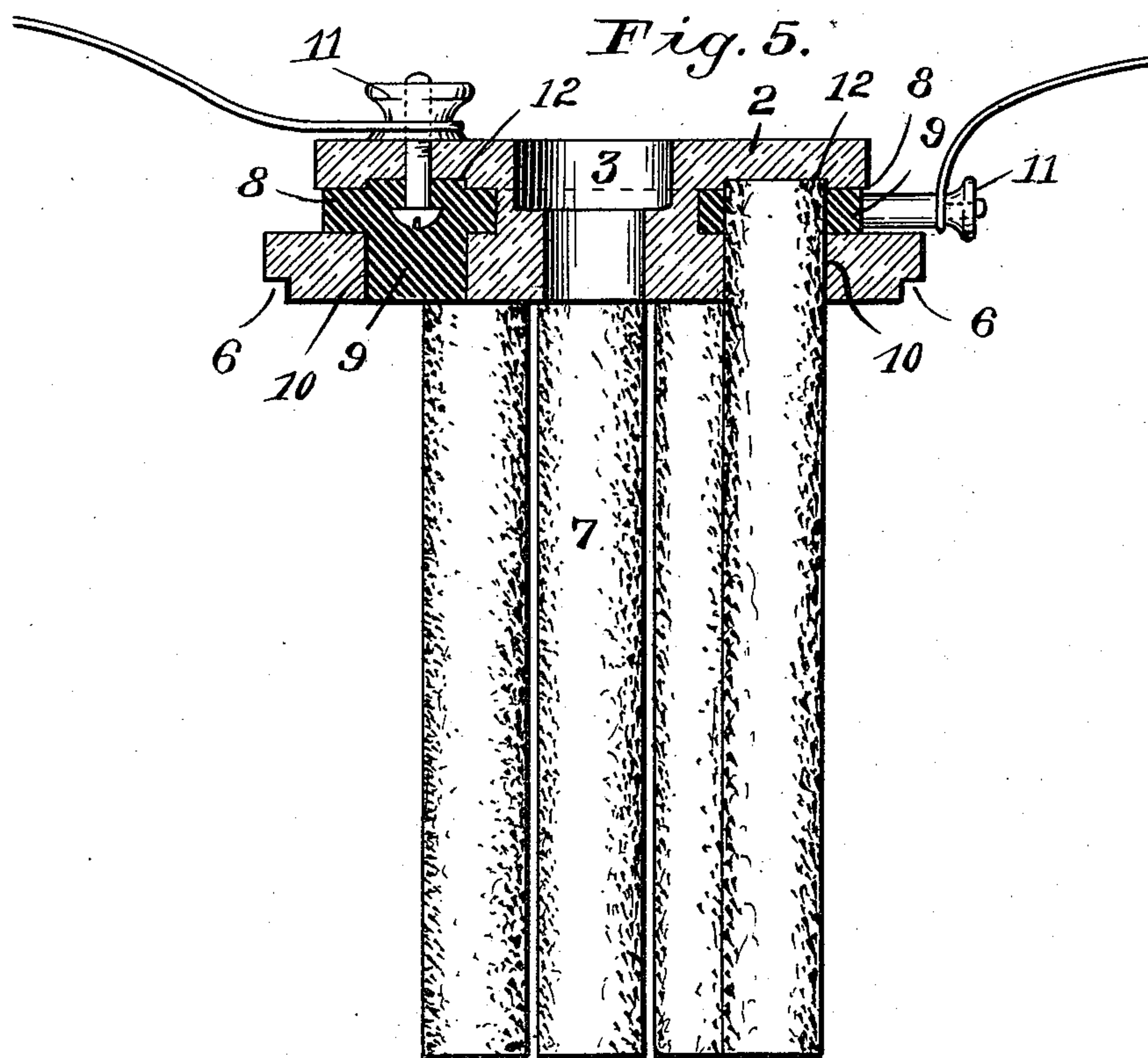
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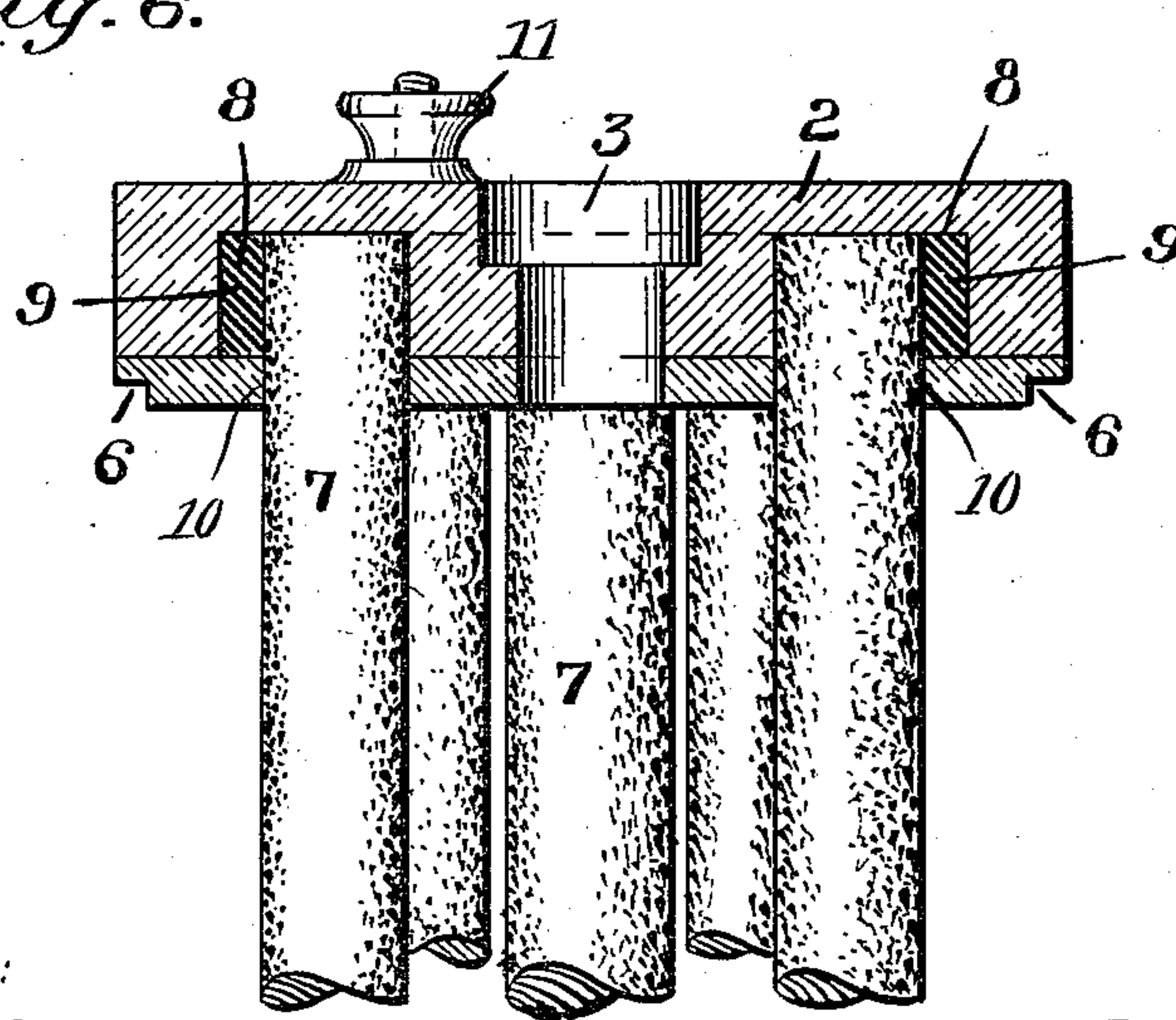
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*Fig. 6.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

CHARLES B. SCHOENMEHL, OF WATERBURY, CONNECTICUT, ASSIGNOR OF  
ONE-HALF TO CLARK M. PLATT, OF SAME PLACE.

## GALVANIC BATTERY.

SPECIFICATION forming part of Letters Patent No. 532,826, dated January 22, 1895.

Application filed November 14, 1893. Serial No. 490,943. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES B. SCHOENMEHL, a citizen of the United States, and a resident of Waterbury, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Galvanic Batteries, of which the following is a specification.

My invention relates to galvanic batteries, and particularly that class in which zinc and carbon are the essential elements, together with any suitable solution for instance sal-ammoniac, or the electropoion fluid, the special object being to improve upon the various batteries now in use and to simplify and cheapen their method of construction, and more particularly to increase their strength, capacity, and life, and further to prevent any possible corrosion of the metal, and with these ends in view my invention consists in the construction hereinafter fully described and then recited in the claims.

In order that those skilled in the art to which my invention appertains may fully understand its construction, I will proceed to describe the same in detail, reference being had to the accompanying drawings, and the numerals marked thereon, which form a part of this specification, and in which—

Figure 1. is a side elevation of my novel battery-pole the jar being in cross section. Fig. 2. is an inverted plan view of the cover prior to the introduction of the carbons, and the molten metal. Fig. 3. is a perspective view of the cover. Fig. 4. is a cross section of the cover, the metal and carbons being omitted. Fig. 5. is a cross section of the cover, the carbons and metal being inserted. Fig. 6 is a cross section of a slightly modified form of construction.

Upon the drawings 1 denotes a suitable jar which may be of any preferred construction, and preferably of glass.

2 denotes the cover which is made of porcelain or other suitable material and of the shapes shown. In the center of the covering 2 I provide a suitable opening 3 in which may be placed the usual zinc stick 4 having a suitable binding screw 5 of the ordinary construction, said stick serving as one pole of the battery. The lower periphery of the cover

has a ledge 6 for the purpose of snugly fitting upon the jar, as shown in Fig. 1.

The carbon pole of the battery is integral with the cover and it consists of a circular series of carbons 7 which may be of any preferred formation, said carbons being arranged so as to be exposed upon all sides to the fluid in the jar, and not exposing the metallic connection between them. The porcelain cover which is a part of the pole, may be formed as shown in Figs. 5 or 6, each having an annular recess 8 for the purpose of receiving the ends of the carbons 7, and lead or other suitable metal 9. In Figs. 1 to 5 inclusive it will be seen that this recess is formed upon the periphery and extends well into the cover, having a series of openings from the bottom and connecting therewith, through which the ends of the carbons 7 are inserted, and wherein they are held by the application of molten metal, which when cold serves to secure them firmly within said position.

Upon the under side of the top of the cover and within the recess I provide a series of shallow bores 12 which register with the openings 10 in the base of the cover. These bores as will be apparent are for the purpose of receiving the ends of the carbons and retaining them at a perfect right angle to the cover while the metal is being inserted.

It will be observed that the metal connection within the cover and between the carbons are not exposed to the interior of the jar, or to the top of the cover, thus protecting it from fluid, gases, &c.

In Fig. 6 the metal is entirely incased on all sides and is in no way exposed to the acid or atmosphere. A suitable metallic connection would be made through the top of the cover to a binding screw 11, which could readily be done by a small hole being formed in the cover when made, and the binding post screwed through and into the metal when completed, or the post may be secured to the side of the cover as shown in Fig. 5.

It will be clearly seen from the above devices that by the inclosure of the metal within the cover said metal is preserved against corrosion, thereby lengthening the life of the battery. Corrosion is a common occurrence among many batteries of this class, when wa-



ter, acid, and gases are permitted to come into direct contact with the metal, as will be appreciated by those skilled in the art.

The manufacture of this battery is simple and inexpensive, and consists first in providing the cover with a suitable annular recess as shown, and an opening or a series of openings through the bottom of the cover and into the recess, next placing the carbons in position within said openings, then fitting a separable ring around the annular recess of the cover, after which the cover is ready and receives its molten metal within the recess and around the carbons. Said metal will quickly cool and harden, thereby retaining the carbons in position.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. As a new article of manufacture a carbon pole of a battery which consists of an insulated cover, having an internal annular recess, openings through the bottom of the cover into said recess, a series of carbons having their ends extended into said recess, and cast metal within and filling said recess for the purpose of retaining the carbons and serving to complete the electrical connection between said carbons, substantially as described and for the purpose specified.

2. In a carbon pole of a battery of the class

described the combination with an insulated top, of an annular recess within said top, a series of openings extending through the under side of the top into the recess, carbons arranged within said openings with their ends in the beforementioned recess, and metal within the recess and surrounding the ends of the carbons whereby they are retained and the metal connections between the carbons secured.

3. In a battery of the class described the combination with an insulated cover, of a peripheral annular recess within said cover, a series of openings extending through the under side of the cover into the annular recess, a series of bores extending into the top from the recess and registering with the beforementioned openings, carbon sticks arranged within said openings with their ends extended through the beforementioned recess and into the bores, and metal within the recess and surrounding the ends of the carbons whereby they are retained and their metallic connection completed.

Signed at Bridgeport, in the county of Fairfield and State of Connecticut, this 11th day of November, A. D. 1893.

CHARLES B. SCHOENMEHL.

Witnesses:

C. M. NEWMAN,

W. G. BROWNSON.